Maciej Kos

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Profile

Data scientist and user researcher with a strong background in behavioral sciences and health informatics. Improves products by providing data-informed insights about user behavior. Works well in diverse teams on time-sensitive projects. Effectively solves meaningful problems using mixed-methods spanning multiple fields.

Education

Northeastern University, Boston, MA — 09/2015 – present
Ph.D. in Computer Science / Personal Health Informatics (GPA: 4.0)

University of Michigan, Ann Arbor, MI — 12/2012
Master of Arts in Information Science (behavioral research)

Barcelona Graduate School of Economics, Barcelona, Spain — 06/2009
Master of Science in Economics of Science and Innovation

University of Gdansk, Sopot, Poland — 06/2005
Bachelor and Master of Arts in Economics and E-business

Relevant Experience

Research Assistant at Khoury College of Computer Sciences, Northeastern University, Boston, MA — 09/2015 – present

UX Research Intern (quantitative) at Google, Material Design, San Francisco, CA — 05/2019 – 09/2019

Research Intern (Clinical Data Analytics) at Philips Healthcare Research, Cambridge, MA — 05/2018 – 09/2018

Investigator / Research Group Manager, Research Grant: Genetic health risk information avoidance, Sopot, Poland & Boston, MA — 07/2013 – 05/2018

User Experience and Research Consultant at Agile Axons (self-employed), Gdynia, Poland and Rome, Italy — 01/2013 – 08/2015

Graduate Research Assistant at the School of Information, University of Michigan, Ann Arbor, MI — 08/2009 – 01/2012

Skills

Expertise in: R, Python, Stata, d3.js/Tableau

Machine Learning: Dimensionality reduction, clustering, support vector machines, ridge regression, logistic classification, random forests, regression trees

Statistics: Multilevel univariate and multivariate regression models, structural equation modeling, psychometric modeling

Other: Data visualization, network analysis, UX research and design, AI/ML pipelines

Selected Awards

ACM/Intel Corporation Computational and Data Sciences Fellowship, 2017 – 2020
Grace Hopper Conference, 2019 – Google Travel Award
Disability:IN, 2017 - NextGen Leader Award
Polish National Science Center research grant ($77 000), 2013 - 2016

Selected Projects (**HCI/UX** and **Data Science**)

Google Material Design: developed an **algorithm** for computing website's **cognitive** complexity, prototyped **analytics** pipeline, which parses 400 billion pages and fuses Google's diverse signals about each website

Contraception Aid: develops a **mobile app** to help low-income Latinas select affordable birth control options that are consistent with their fertility goals (with Harvard Boston Children's Hospital)

Philips Healthcare: **analyzed** clinical data, **prototyped UX** and system architecture for two integrated monitoring and decision-support systems for intensive care units

Child Aid: as a volunteer on large-scale experimental intervention to increase literacy of Guatemalan children **analyzed** data and consulted on research design

Strengthening Human Adaptive Reasoning and Problem-solving: **analyzed**, **visualized**, and **modeled** players progress through a computer game designed to improve their fluid intelligence; identified game components responsible for improvements in **cognitive function** (with Harvard, Oxford, and HoneyWell)

Digital Breeze: led the **UX** team in designing a consumer-facing **mobile application** for a large Italian telco (with Ericsson, McKinsey, and Monk Software)

WearTech: helped develop and evaluate a cutting-edge **algorithm** for improving the accuracy of heart rate variability estimates from wearable devices

Lives of Dissidents: helped launch a charity project dedicated to spreading the message of peaceful dissent as a means of dissolving oppression; as a **UX** designer / researcher designed information **architecture**, conducted **usability** studies and card sorting sessions

Selected Papers, Presentations, and Posters

1. **Kos M.**, Yew J. (2019) *Computational methods for understanding cognitive density preferences; foundations for adaptive user interfaces*, Google Ph.D. Intern Research Conference, Mountain View, CA
2. Khaghani-Far, I., Li, X., **Kos, M.**, Gordon, C. M., Williams, H., Pavel, M., & Jimison, H. B. (2019). NUCoach: *A Customizable Coaching Platform for Designing Rehabilitation Mobile Apps*. Archives of Physical Medicine and Rehabilitation, 100(7), e2.
3. **Kos M.**, Pavel M., Jimison H. (2019). *How to Validate Heart Rate Monitoring Wearables for Just-in-Time Adaptive Health Interventions? Development of Comparison Testing Guidelines.* Poster presentation at the Annual American Medical Informatics Association Symposium, Washington, DC
4. **Kos M.**, Ponnada A., Pavel M., Intille S. (2019). *Evidence That Microinteraction Ecological Momentary Assessment (μEMA) is a Non-Reactive In-Situ Affect Assessment Method*. Poster presentation at the Society for Affective Science Annual Conference in Boston, MA
5. Rampersad S., Orhan K., **Kos M.**, Mansfield K., Marghi Y. M., Sheffield J., Dillard M., Erdogmus D., Pascual-Leone A., Yeung N., Mathan S., Cohen K. R., Pavel M. (2018*). Effects of EEG-Based Closed-Loop Transcranial Alternating Current Stimulation on Theta Power during a Cognitive Task*. Poster presentation at the 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Hawaii
6. **Kos M.**, Gordon C., Li X., Khaghani-Far I., Pavel M., Jimison H. (2017). *The Accuracy of Monitoring Stress from Wearable Devices.* Poster presentation at the Annual American Medical Informatics Association Symposium, Washington, DC
7. **Kos M.**, Li X., Khaghani-Far I., Gordon C., Pavel M., Jimison H. (2017). *Can accelerometry data improve estimates of heart rate variability from wrist PPG sensors?* Paper presentation at the 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, South Korea
8. McKanna J., **Kos M**., Plessow F., Dillard M., Almquist J., Kimball G., Myers E., Orhan U., Rampersad S., Marghi Y., Cornhill D., Brem A., Mansfield K., Yeung N., Thompson T., Santarnecchi E, Erdogmus E., Pascual-Leone A., Kadosh C. R., Mathan S., Pavel M. (2017). *Components of cognition: identifying contributors to learning speed in a game training intervention*. Poster presentation at xTech, San Francisco

Complete list of publications available at: **mkos.pl/publications.html**